WO 2005/011571

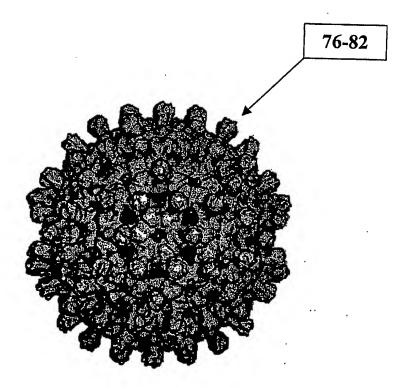


Fig. 1

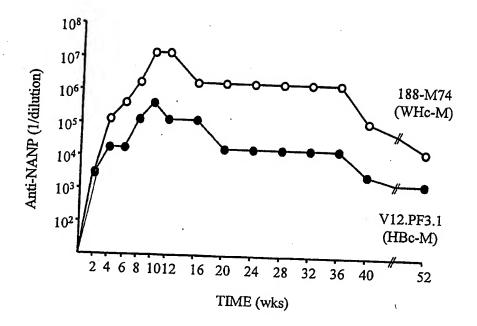


Fig. 2

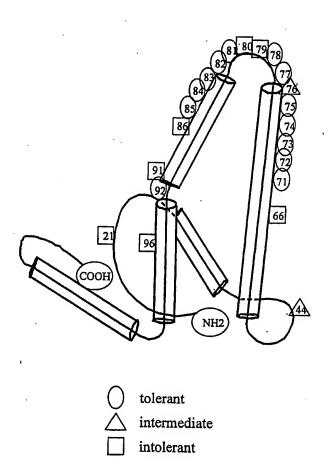


Fig. 3



Fig. 4

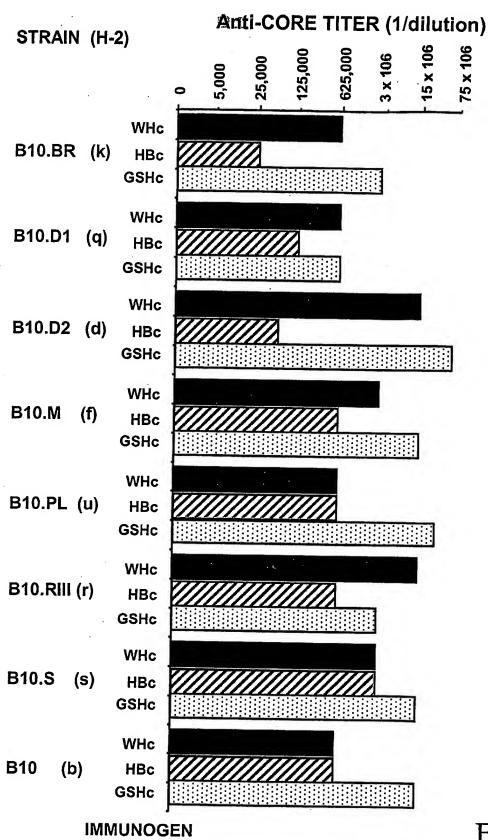


Fig. 5

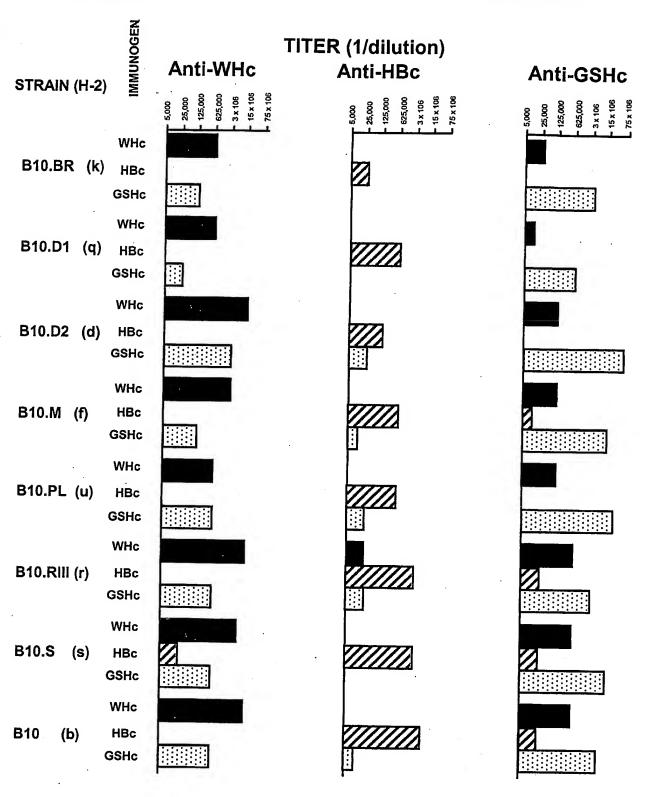


Fig. 6

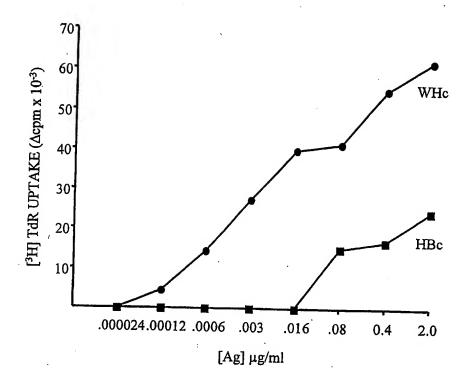


Fig. 7

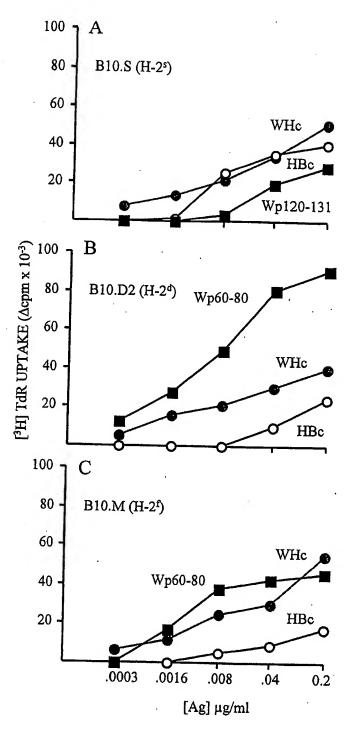
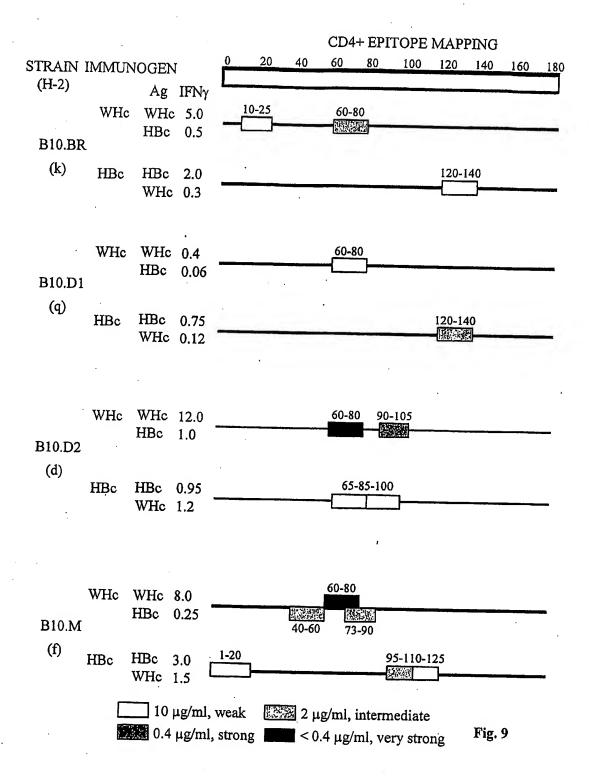
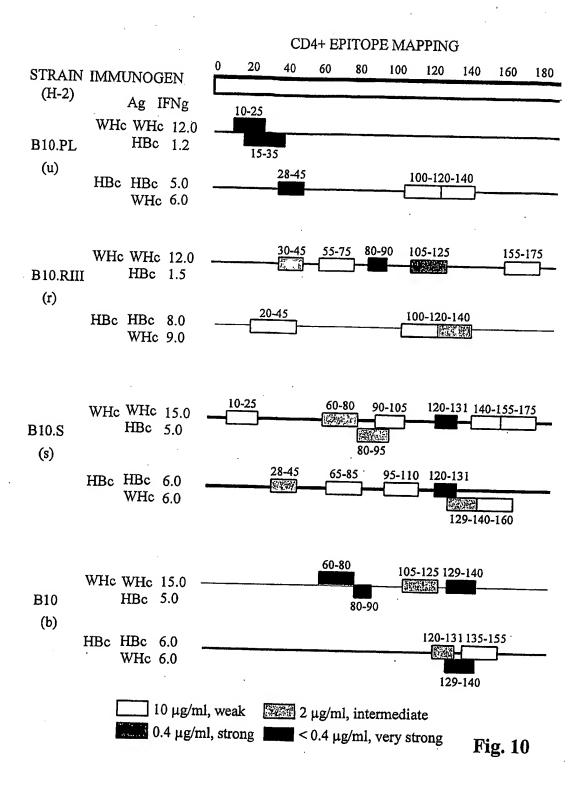


Fig. 8





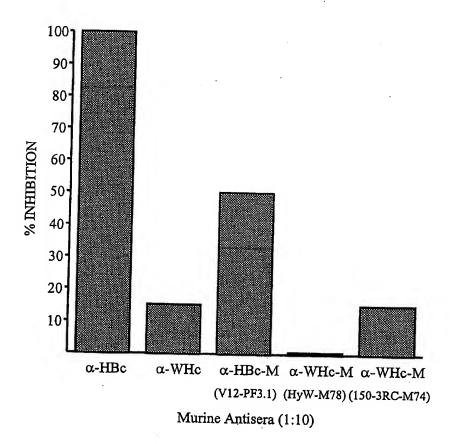


Fig. 11

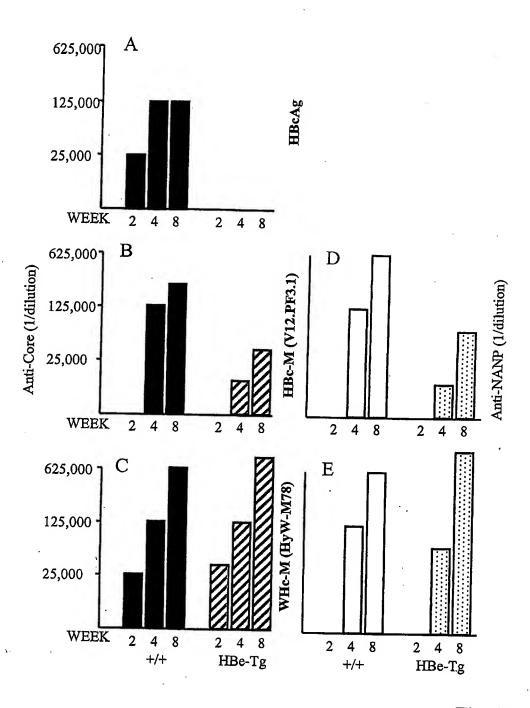


Fig. 12

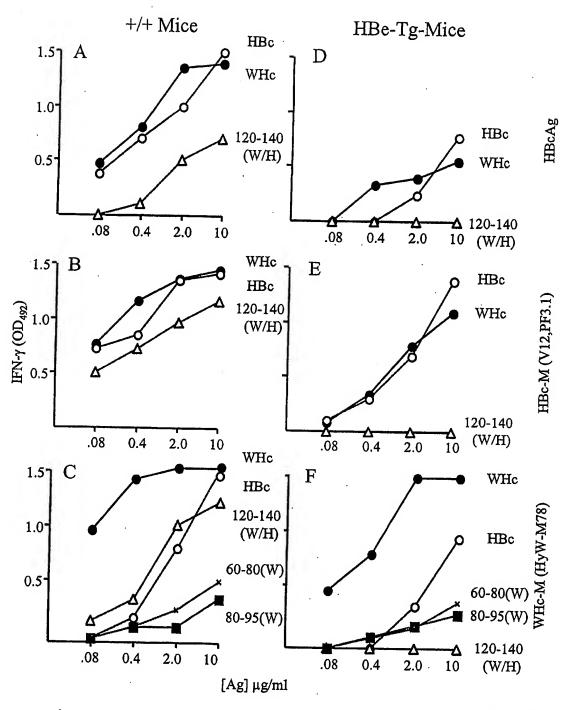
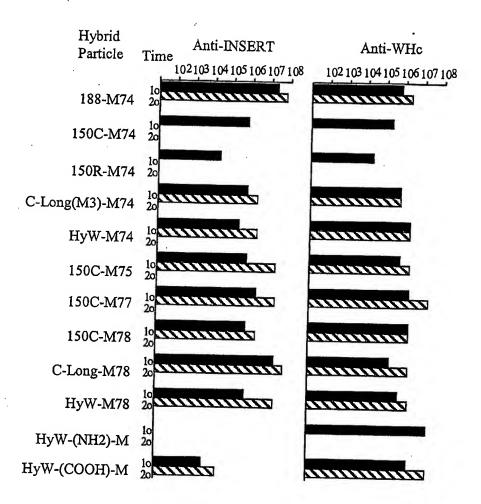


Fig. 13



IMMUNOGENICITY

Fig. 14

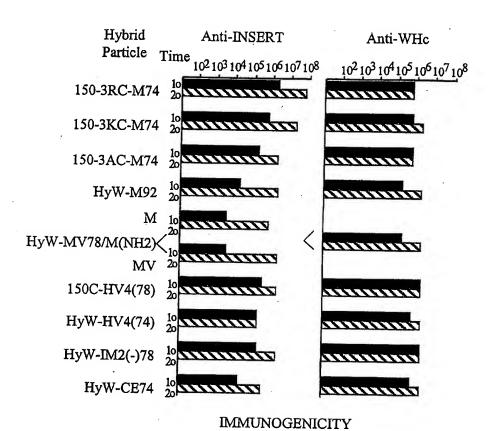


Fig. 15

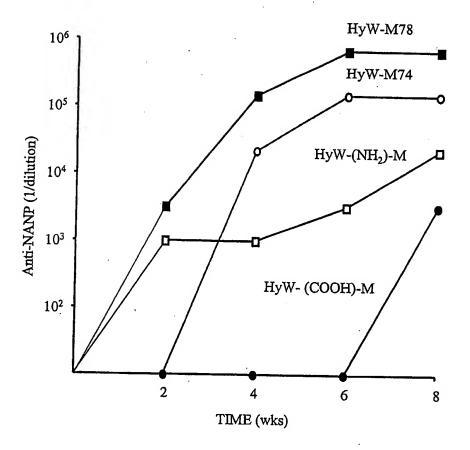


Fig. 16

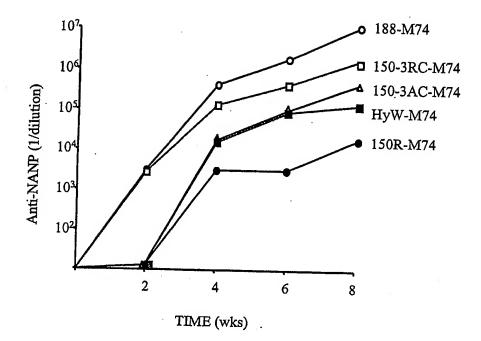
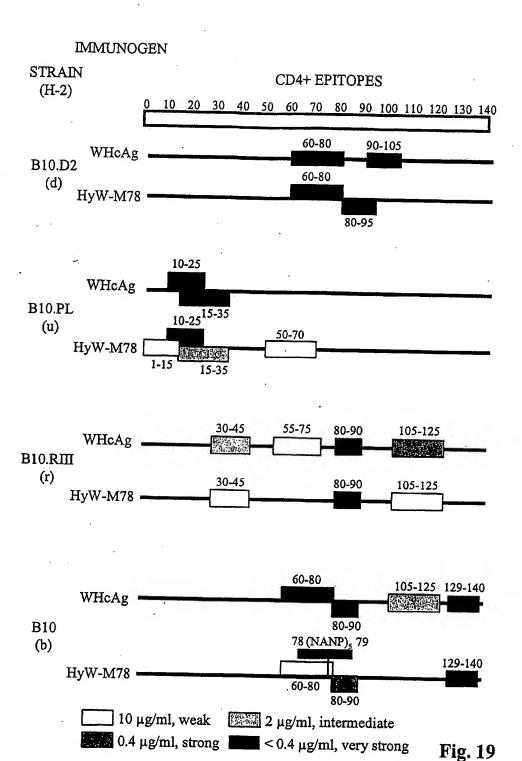
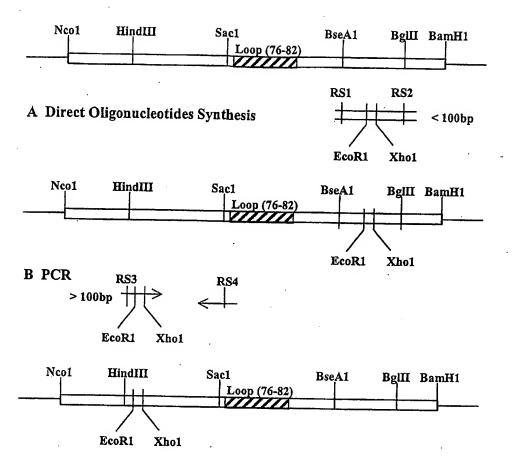


Fig. 17







C C-Terminal Modification

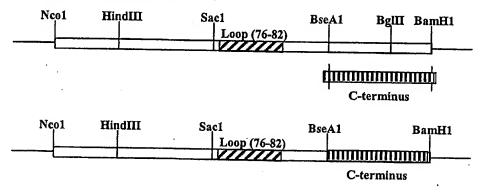


Fig. 20

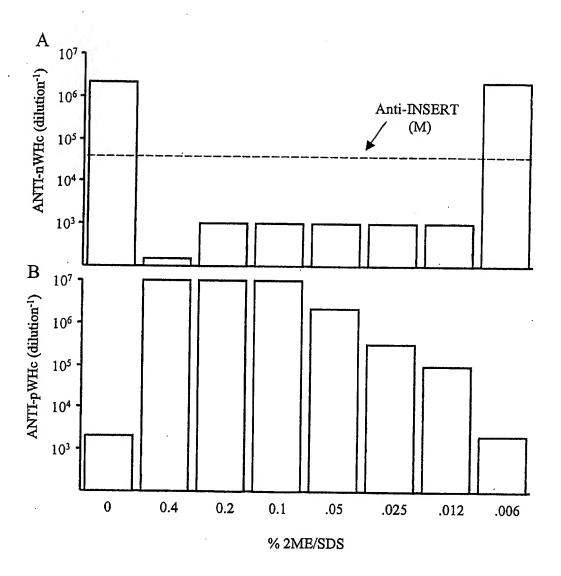


Fig. 21

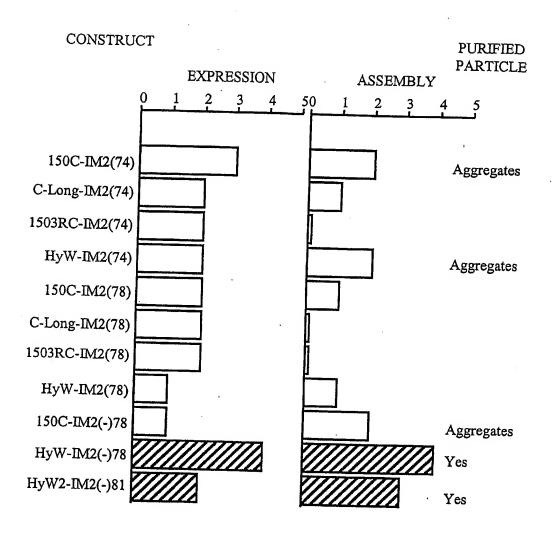


Fig. 22

| Polyclonal mAb 14C2 Anti-HvW-IM7(-)78 | Q | 51200 625000 | - 25600 125000 | - 12800 125000 | 25600 3 x 10 ⁶ | 6400 625000 | 1600 625000 | - 12800 3 x 10 ⁶ | A 25600 625000 | $ \mathbf{A} \mathbf{A} = 102400$ 3 x 10 ⁶ | 625000 : 15 x 10 | . 0 |
|---------------------------------------|--------------------|--------------|----------------|----------------|---------------------------|-----------------------|---------------------|-----------------------------|---|--|----------------------|-------------------|
| | VETPIRNEWGCRCND-SS | | A | A | 1 1 1 1 1 1 1 1 1 1 1 | 1 1 1 1 1 1 1 1 1 1 1 | 1 1 1 1 1 1 1 1 1 1 | A | 1 | - W | HyW-IM2(-)78 | • |
| Fig. 23 | WtM2e M S L L T E | P1 | P2 | F3 | P4 | P5 | F0 | P7 | | F9 | Core-IM2(-) Particle | Core-M78 Particle |

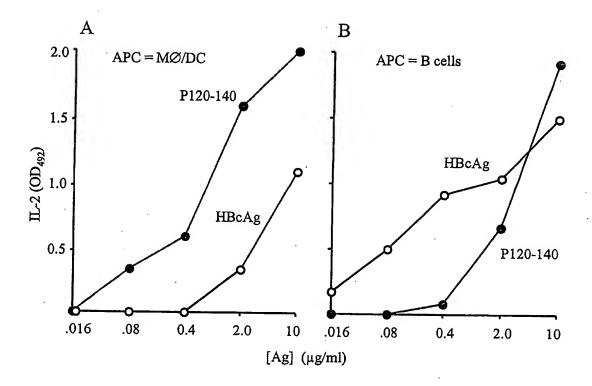
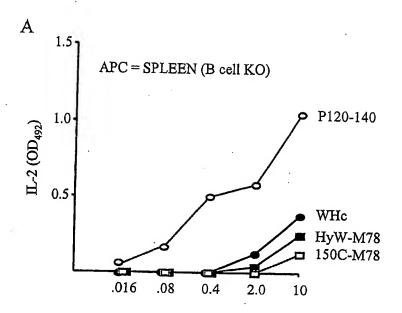


Fig. 24



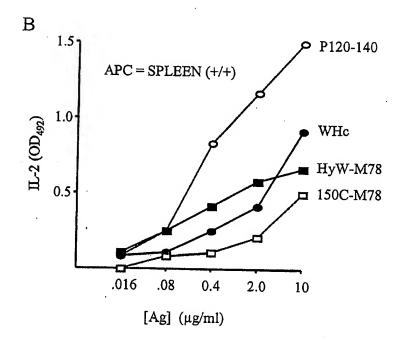


Fig. 25

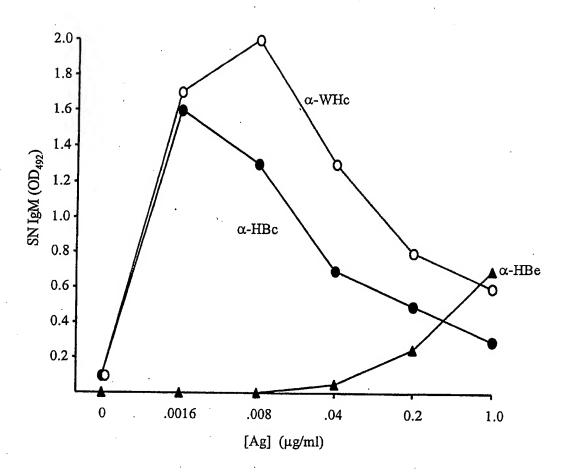


Fig. 26

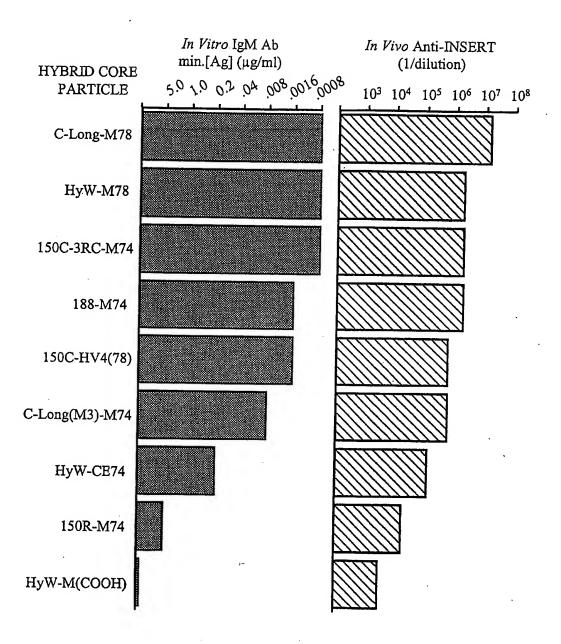


Fig. 27

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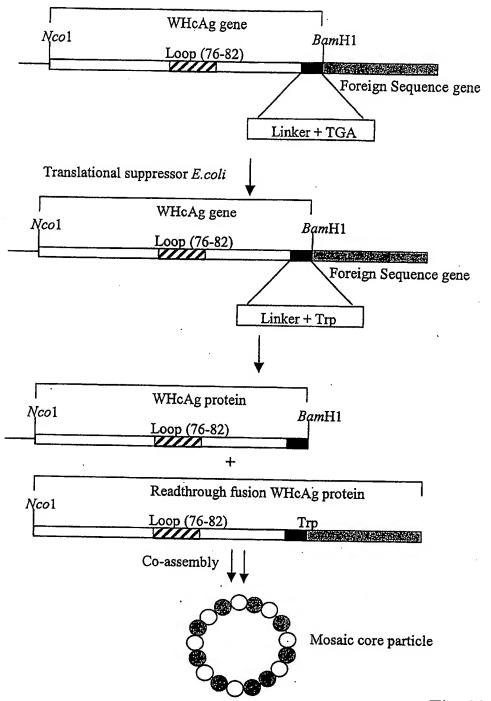


Fig. 28

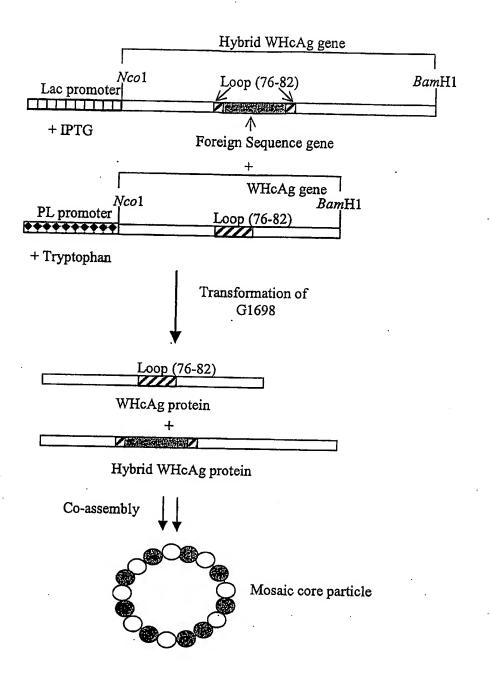
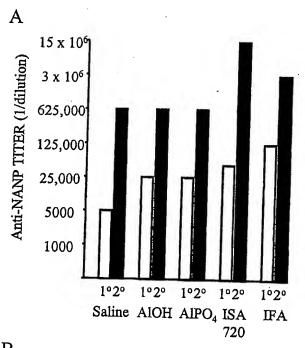


Fig. 29



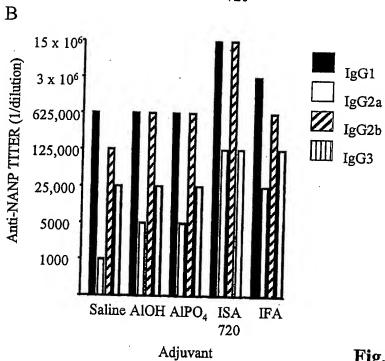


Fig. 30

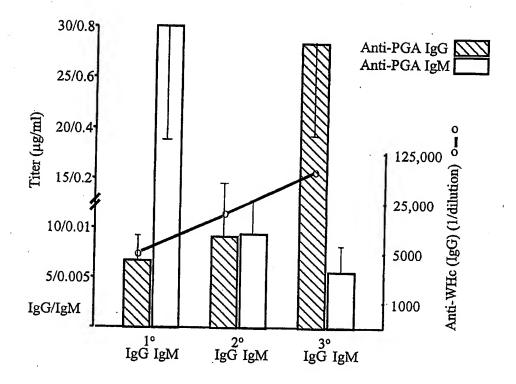


Fig. 31

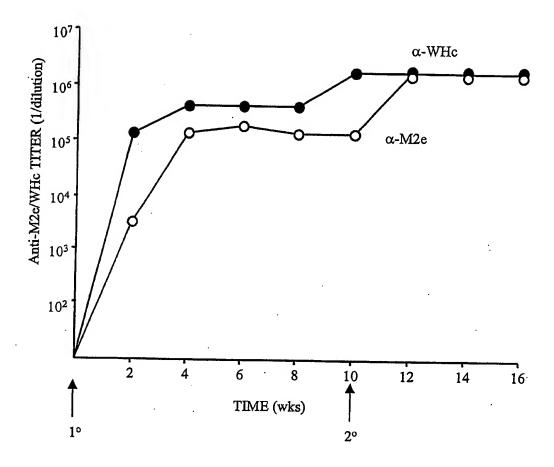


Fig. 32

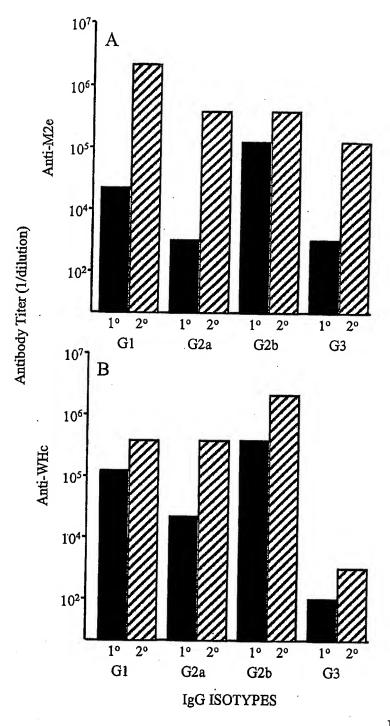


Fig. 33

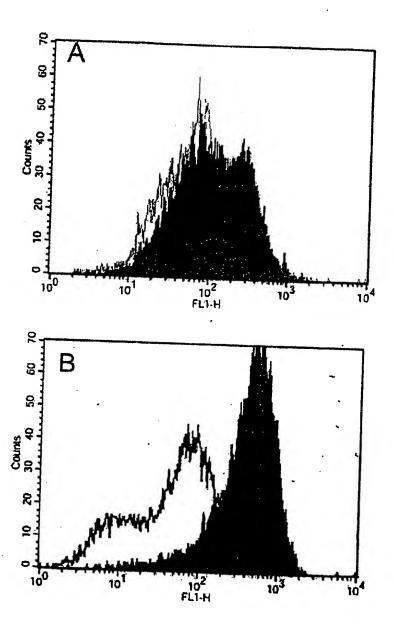


Fig. 34

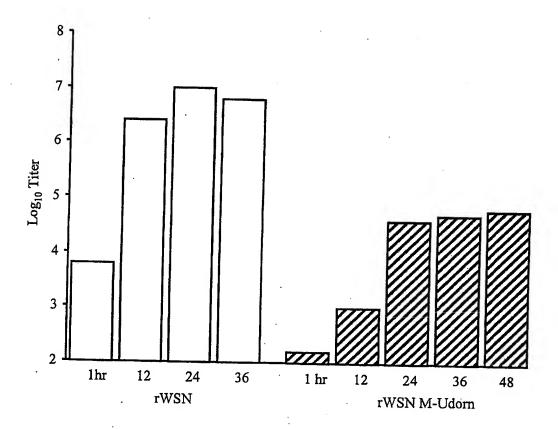


Fig. 35

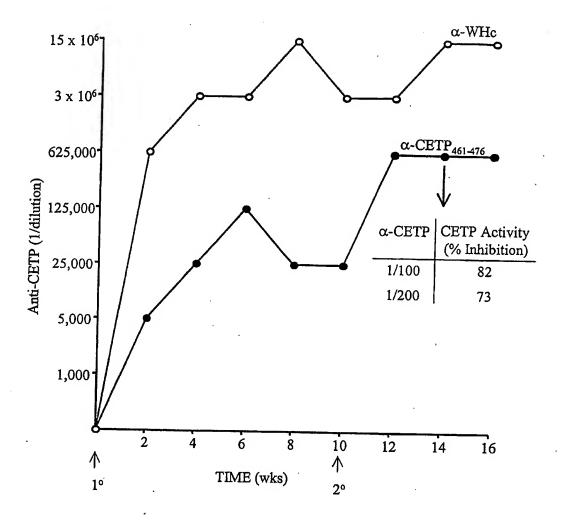


Fig. 36

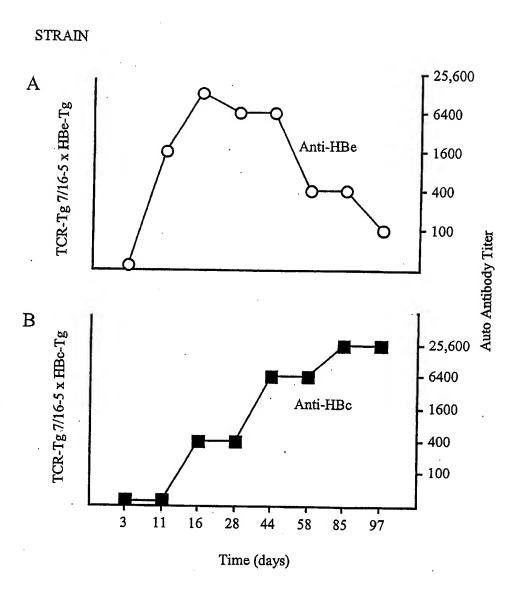


Fig. 37

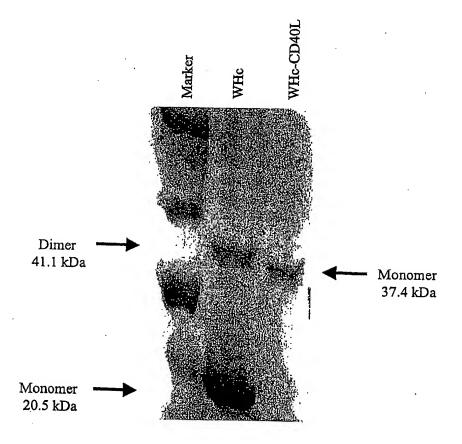


Fig. 38

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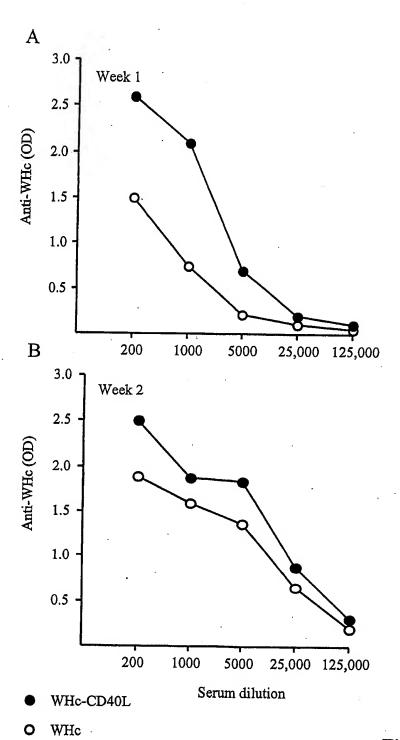


Fig. 39

Fig. 40

A Wild Type WHcAg DNA (SEQ ID NO:37)

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TTTTGGACTTCTTTCCTGACCTTAATGCTTTGGTGGACACTGCTACTGCCTTGTATGAAG
AAGAGCTAACAGGTAGGGAACATTGCTCTCCGCACCATACAGCTATTAGACAAGCTTTA
GTATGCTGGGATGAATTAACTAAATTGATAGCTTGGATGAGCCTCTAACATAACTTCTGA
ACAAGTAAGAACAATCATTGTAAATCATGTCAATGATACCTGGGGACTTAAGGTGAGAC
AAAGTTTATGGTTTCATTTTGTCATGTCTCACTTTCGGACAACATACAGTTCAAGAATTT
TTAGTAAGTTTTGGAGTATGGATCAGGACTCCAGCTCCATATAGACCTCCTAATGCACC
CATTCTCTCGACTCTTCCGGAACATACAGTCATTAGGAGAAGAGGGGGTGCAAGAGCTT
CTAGGTCCCCCAGAAGACGCACTCCCTCTCCTCGCAGGAGAAGATCTCAATCACCGCGT
CGCAGACGCTCTCAATCTCCATCTGCCAACTGCTGA

B Wild Type WHcAg (SEQ ID NO:1)

MDIDPYKEFGSSYQLLNFLPLDFFPDLNALVDTATALYEEELTGREHCSPHHTAIRQAL VCWDELTKLIAWMSSNITSEQVRTIIVNHVNDTWGLKVRQSLWFHLSCLTFGQHTVQEF LVSFGVWIRTPAPYRPPNAPILSTLPEHTVIRRRGGARASRSPRRRTPSPRRRRSQSPR RRRSQSPSANC

C Truncated WHcAg (SEQ ID NO:38)

MDIDPYKEFGSSYQLLNFLPLDFFPDLNALVDTATALYEEELTGREHCSPHHTAIRQAL VCWDELTKLIAWMSSNITSEQVRTIIVNHVNDTWGLKVRQSLWFHLSCLTFGQHTVQEF LVSFGVWIRTPAPYRPPNAPILSTLPEHTVI

Fig. 41

A Wild Type GSHcAg DNA (SEQ ID NO:39)

ATGGACATAGATCCCTATAAAGAATTTGGTTCTTCTTATCAGTTGTTGAATTTTCTTCC
TTTGGACTTTTTTCCTGATCTCAATGCATTGGTGGACACTGCTGCTGCTCTTTATGAAG
AAGAATTAACAGGTAGGGAGCATTGTTCTCCTCATCATACTGCTATTAGACAGGCCTTA
GTGTGTTGGGAAGAATTAACTAGATTAATTACATGGATGAAGAAATACAACAGAAGA
AGTTAGAAGAATTATTGTTGATCATGTCAATAATACTTGGGGACTTAAAGTAAGACAGA
CTTTATGGTTTCATTTATCATGTCTTACTTTTGGACAACACACAGTTCAAGAATTTTTG
GTTAGTTTTGGAGTATGGATTAGAACTCCAGCTCCTTATAGACCACCTAATGCACCCAT
TTTATCAACTCTTCCGGAACATACAGTCATTAGGAGAAGGGAGGTTCAAGAGCTGCTA
GGTCCCCCCGAAGACGCACTCCCTCCTCCCCGCAGGAGAAGGTCTCAATCACCGCGTCGC
AGACGCTCTCAATCTCCAGCTTCCAACTGCTGA

B Wild Type GSHcAg (SEQ ID NO:21)

MDIDPYKEFGSSYQLLNFLPLDFFPDLNALVDTAAALYEEELTGREHCSPHHTAIRQAL VCWEELTRLITWMSENTTEEVRRIIVDHVNNTWGLKVRQTLWFHLSCLTFGQHTVQEFL VSFGVWIRTPAPYRPPNAPILSTLPEHTVIRRRGGSRAARSPRRRTPSPRRRRSQSPRR RRSQSPASNC

C Truncated GSHcAg (SEQ ID NO:40)

MDIDPYKEFGSSYQLLNFLPLDFFPDLNALVDTAAALYEEELTGREHCSPHHTAIRQAL VCWEELTRLITWMSENTTEEVRRIIVDHVNNTWGLKVRQTLWFHLSCLTFGQHTVQEFL VSFGVWIRTPAPYRPPNAPILSTLPEHTVI Fig. 42

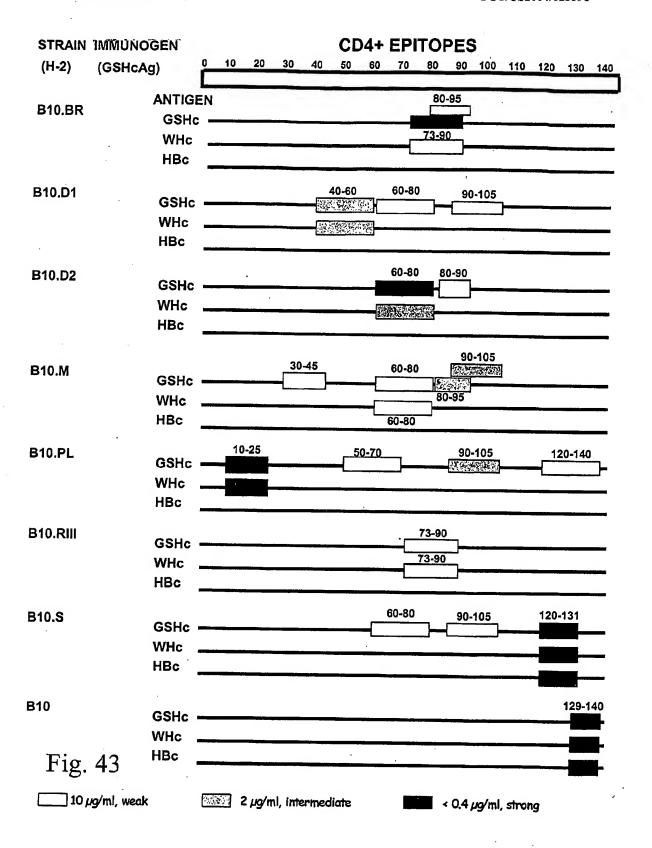
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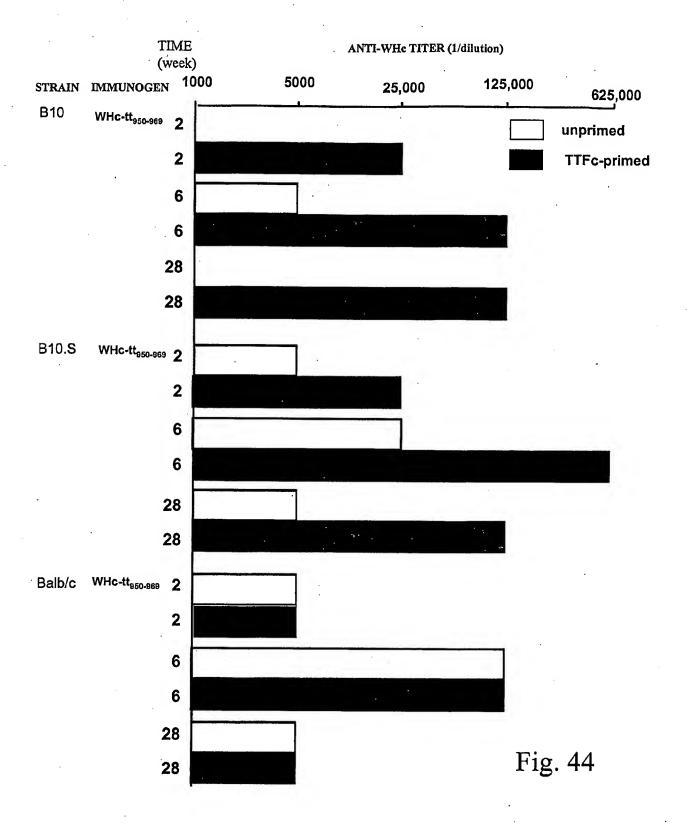
B Wild Type HBcAg (SEQ ID NO:41)

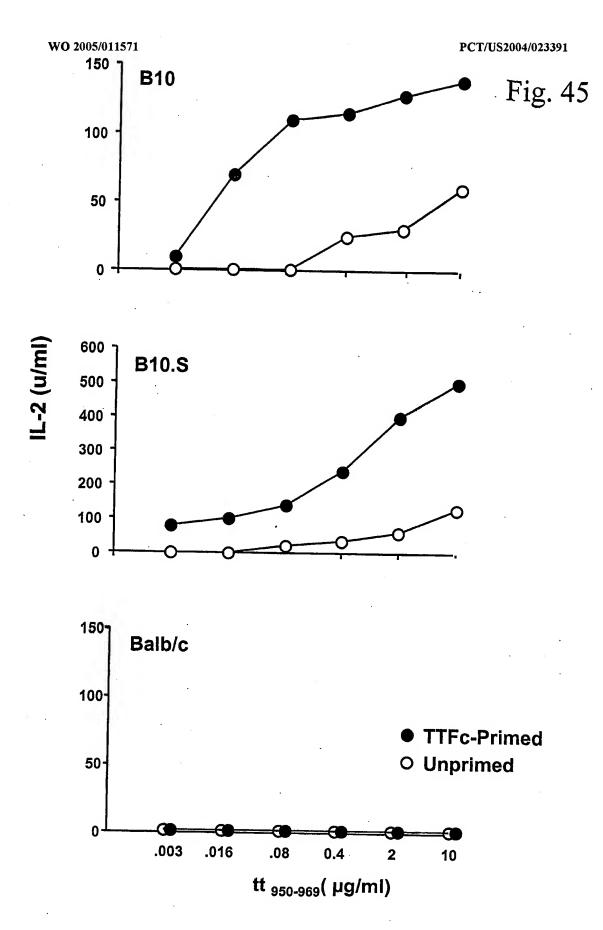
MDIDPYKEFGATVELLSFLPSDFFPSVRDLLDTASALYREALESPEHCSPHHTALRQAI LCWGELMTLATWVGVNLEDPASRDLVVSYVNTNMGLKFRQLLWFHISCLTFGRETVIEY LVSFGVWIRTPPAYRPPNAPILSTLPETTVVRRRGRSPRRRTPSPRRRRSQSPRRRRSQ SRESQC

C Truncated HBcAg (SEQ ID NO:58)

MDIDPYKEFGATVELLSFLPSDFFPSVRDLLDTASALYREALESPEHCSPHHTALRQAI 54 LCWGELMTLATWVGVNLEDPASRDLVVSYVNTNMGLKFRQLLWFHISCLTFGRETVIEY 1122 LVSFGVWIRTPPAYRPPNAP/LLSTLPETTVV







| 10 | DAKDALEPYWKSDSIKKHVLIATHFDAKDALEPYWKSDSIKKHVLIATHFDAKDALEPYWKSDSIKKHVLIATHFDAKDALEPYWKSDSIKKHVLIATHFDAKDALEPYWKSDSIKKHVLIATHFRNSSALWRBADALESPWBCSPNHCZPNHTTASALWRBALESPWBCSPNHTTASALWRBALESPWBCSPNHTTASALWRBANDSIKKHVLIATHFRAMSSALWRBANDSIKKHVLIATHFRAMSSALWRBANDSIKKHVLIATHFRAMSSALWRBANDSIKKHVLIATHFRAMSSALWRBANDSIKKHVLIATHFRAMSSALWRBESSDHCSPHHTTATATATATATATATATATATATATATATATATATA | D F M Q T T Q G M H E I A E S L R A V I P P M A D D F M Q T T Q G M H E I A E S L R A V I P P M A D D D F M Q T T Q G M H E I A E S L R A V I P P D D D D D F M Q T T Q G M H E I A E S L R A V I P P D D D D D D D D D D D D D D D D D |
|---|--|--|
| HIG. 46A CHBV-831 N32991 KCD N N N N N N N N N | | A STATE OF THE PARTY OF THE PAR |

| T © Y L I Q H E E A E E I P L G D L F K H Q E E R I V S F Q T © Y L I T H S E A E E I P L D D L F S N Q E E R I V N F Q V © Y L L Q H E E A E E I P L G D L F K H Q E E R I V N F Q V G N N L E D P A S R D L V G N N L E D P A S R L L V G N N L E D P A S R L L V G N N L E D P A S R L L V G N N L E D P A S R L L M S E N T T E E V R R I M S E N T T E E V R R I M S A N I N S E E V R R V G N N R E | PDYPITARIHAHLKAYAKIMEESLDRARRRP PDYPITARIHAHLKAYAKIMEESLDRARRRP PDYPITARIHAHLKAYAKINTEESLDRARRRP PDYPITARIHAHLKAYAKINTEESLDRARRP PDYPITARIHAHLKAYAKINTEESLDRARRP PDYPYTAM GENERAL ROOM PDYPYTARIHAHLKAYAKINTEESLDRARRP PDYPYTAM INAM GENERAL ROOM PDYPYTARIHAHLKAYAKINTEESLDRARRP PDYPYTARIHAHLKAYAKINTEESLDRARRP PDYPYTARIHAHLKAYAKINTAM GENERAL IROOM PDHWWYNDTWYNTWOTT | 170 |
|--|---|--|
| DHBV-S31 M32991 HIBV N22056 DHBV N2 001344 HBV BV X62257 Chimp.HBV AF222323 Glbbon HBV AF222323 Glbbon HBV AF077735 Ross'gooseHBV M95589 Orangutan HV NC_002168 WHBV AF046996 GSHV K02715 WHV J02442 AGSH NC_001719 | DHBV-S31 M32991 HHBV M22056 DHBV NC_001344 HBV ayw X65257 Chinp. HBV AF222323 Gibbon HBV AY077735 Rogs 'gooseHBV M95589 Orangutan HV NC_002168 WM:HBV AF046996 GSHV K02715 WHV J02442 AGSH NC_001719 | DHBV-S31 M32991 HHBV N22056 DHBV NC_001344 HBV Gyw X65257 Chimp.HBV AF223323 Gibbon HBV AY07735 Ross'GOOSEHBV M95589 Orangutan HV NC_002168 WMHBV AF046996 GSHV K02715 WHV J02442 AGSH NC_001719 |
| G. | | |

| | | 250 260 270 270 270 270 270 270 270 270 270 27 |
|--|---|--|
| DHEV-S31 M32991 HHBV M22056 DHBV NC_001344 HBV ayw X65257 Chimp.HBV AF222323 Gibbon HBV AY077735 Ross'gooseHBV M95589 Orangutan HV NC_002168 WMHBV AF02452 GSHV K02715 WHV J02442 AGSH NC_001719 | DHBV-S31 M32991 HHBV M22056 DHBV NC_001344 HBV ayw X65257 Chimp. HBV AF222323 Gibbon HBV AF222323 Gibbon HBV AF077735 ROSS' GOOSEHBV M95589 Ozengutan HV NC_002168 WMHBV AF046996 GSHV K02715 WHV J02442 AGSH NC_001719 | Hiby M22991 |